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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,851	03/22/2004	Yukio Ohtaki	9281-4782	3012
7590 12/17/2004			EXAMINER	
Brinks Hofer Gilson & Lione			BOCURE, TESFALDET	
P.O. Box 10395			ART UNIT	
Chicago, IL 60610			PAPER NUMBER	
			2631	

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/805,851

**Applicant(s)**

OHTAKI ET AL.

**Examiner**

Tessfaldet Bocure

**Art Unit**

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/22/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The Information Disclosure statement received on March 22, 2004 has been approved by the Examiner, and the initialed copy (one copy) of the 1449 is attached with this correspondence.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwasaki (US patent number 5,513,22).

Iwasaki teaches antenna diversity receiver (see figures 1 and 2) for receiving diversity signals comprising: first and second antennas (10a and 10b); first and second receivers (20a and 20b) coupled to the respective antennas, for receiving diversity radio frequency signals; adder (53) for adding the diversity received signals; phase shifter (52) having phase difference detector (51) for shifting the relative phase of one the

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received signal; first and second weighting calculating circuits 41a and 41b (claimed level comparator for comparing the amplitude level of the received signals; and amplifiers 40a and 40b (claimed level variable means) for adaptively controlling the amplitude level of the received signals according to the allowable noise level detected by the weighting calculating circuits.

As to the claimed signals attenuated other than the once having maximum level, the automatic gain control in the system of Iwasaki is a having a noise level as a threshold (see abstract) and the variable gain amplifier inherently amplify the received signals which have lower than that of the noise level.

Further to claim 2, the phase shifter 52 in figures 1 and 2 is interposed between the adder 53 and the first and second receivers 20a and 20b.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki (us patent number 5,513,222) in view of Hecken (US patent number 4,373,207).

Iwasaki teaches the claimed subject matter in claim 1 as indicated above.

What Iwasaki fails to teach is that the gain controlling units (60a and 80b) claimed level variable means, connected in series with the corresponding phase shifters means in claim.

Hecken for the same endeavor as the instant application and that of Iwasaki teaches diversity receiver (fig.1) for receiving diversity signals having two phase shifters (11 and 12) connected in series to the corresponding variable attenuators (15 and 16).

To use the phase shifters of Hecken in the system of Iwasaki would enable the receiver to shift the relative phase of the received signals in the range of  $180^0$  in order to improve the bit error rate (see abstract).

Therefore, it would have been obvious to one of an ordinary skill in the art to use the plurality of phase shifters corresponding to the plurality of receiver in order to improve the bit error rate at the time the invention was made.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent number 4,334,316 issued to Tanaka disclose antenna diversity receiver having a plurality of phase shifters and attenuators to the corresponding receivers.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-

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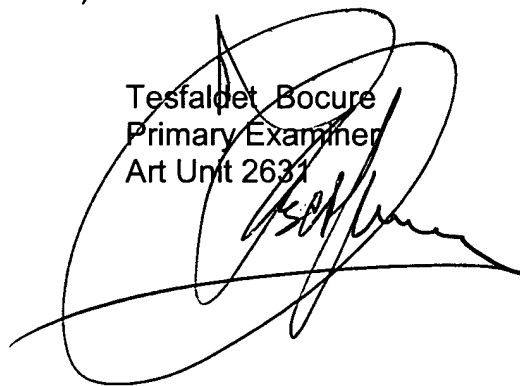
3015. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tesfaldet Bocure  
Primary Examiner  
Art Unit 2631

T.Bocure

A large, stylized handwritten signature in black ink, overlapping the printed name and title of the examiner.